

Commentary on: Johannes Mahr & Gergely Csibra

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Commentary Title:

Using episodic memory to gauge implicit and/or indeterminate social commitments

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Abstract

In discussing Mahr and Csibra's observations about the role of episodic memory in grounding social commitments, we propose that episodic memory is especially useful for gauging cases of implicit commitment and cases in which the content of a commitment is indeterminate. We conclude with some thoughts about how commitment may relate to the evolution of episodic memory.

Commentary

As Mahr and Csibra (M&C) point out, in enforcing the obligations and entitlements generated by social commitments it can be useful for the parties involved to be able to refer back to the specific occurrence establishing the commitment. In discussing this analysis, we propose that episodic memory is especially useful when gauging cases of implicit commitment and cases in which the content of a commitment is indeterminate.

In cases of implicit commitment it can be important to be able to remember specific details of a past occurrence in order to determine whether there is a commitment and what it involves (Michael, Sebanz & Knoblich 2016a; 2016b). For example, if Susan proposed to Alan that they go to the cinema on Thursday night, and the conversation takes place as she drives him home from the mechanic's, where his car has been left for major repairs, Alan might interpret Susan's proposal as implicitly including the suggestion that she will pick him up and drive him to the cinema. He might later gently and gracefully ask whether she can pick him up as a way of confirming this and making it explicit.

For commitments with an indeterminate content, remembering the details of a past occurrence can be important in helping to delineate what the commitment involves. For instance, as Susan drove Alan home from the mechanic's she offered to help out while his car is in the shop. As he thinks about it later, Alan may be unsure just what he should take this offer to include. Did he mention that public transport from his house to work is terrible *before* she made the offer or *after*? If before, he's got some reason to think Susan is comfortable with the idea of giving him lifts to work. If after, and the topic of conversation moved smoothly on with no explicit

suggestion from her that she give him lifts to work, then he's got some reason to think she's not keen on the idea.

In the context of M&C's theory, the importance of episodic memory in human commitment practices raises the question of whether episodic memory might show some functional adaptation to facilitate commitment. Specifically, might there be a propensity for stronger encoding of or retention of episodic memories that are commitment-related? This could be tested – following a procedure developed by Conway (2009; cf. Williams et al., 2008) – by asking people to list as many specific memories as possible for yesterday, two days ago, three days ago, etc., and measuring the frequency of memories in which social commitments are generated. In order to determine whether there is commitment-specific facilitation it would be important to compare the effects of commitment on memory with other factors such as generalized personal or social significance. Should commitment-specific facilitation be found, the further question would be whether this is an evolutionary adaptation, and it would be important to rule out alternative explanations such as enculturation operating on developmental plasticity. It is in general challenging to infer back from current function to evolutionary adaptation, and especially so in the case of multifunctional traits.

With this cautionary note in mind, we may venture to observe that Conway's theory of episodic memory also raises interesting considerations for understanding the origins of commitment in human evolution. Conway's hypothesis is that the function of episodic memory is to maintain a record of progress in relation to short-term goals (Conway, 2009). In this respect, it is important to note that active working memory has limited capacity, which means that over the course of temporally extended goal-directed activities task-related information must be stored and retrieved from long-term memory (LTM). There are compelling reasons to think that the form of LTM involved is episodic memory (self-involving) and not mere event memory (no self present). After all, Alan must be aware that X is *his* goal and that *he* has performed a particular set of task-related actions up to this point. Merely remembering that *some* agent was performing a task, which the individual somehow egocentrically remembers, isn't enough to carry on with the task.

Complex, temporally extended goal-directed activities arguably play an important adaptive role for a number of nonhuman species, and clearly were extremely important in human evolution. This lends considerable plausibility to Conway's theory. More recently (in phylogenetic terms),

human lifeways have been shaped by the importance of coordinating with others in *joint* goal-directed activities. It is therefore tempting, against the backdrop of Conway's theory, to speculate that episodic memory may have come to support the function of keeping track of who is committed to what within the context of joint goal-directed activities. Could such information be encoded directly to semantic memory, bypassing episodic memory? Possibly, but on Conway's account, episodic memory forms the basis for higher-order conceptual memory structures (e.g., a conceptual frame like *a day at work*) that provide narrative structure which organises specific episodes. Thus, according to Conway, episodic memory plays a foundational role in the development of higher levels of narratively structured memory.

Conway's theory offers an attractive framework for understanding the evolution of social commitment, and in so doing provides an illuminating backdrop to M&C's analysis. As M&C point out, episodic memory is important in grounding social commitments. This is surely true. It is also true that to make a commitment you have to already be capable of engaging in temporally extended goal-directed activity – otherwise there is nothing to make a commitment about. Furthermore, the social regulation of commitments (especially to the extent that the commitment is implicit and/or indeterminate) is likely to involve the detailed narrative memory for goal-directed activity described by Conway's theory.

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